Chapter 3

Narrow Policies

This chapter presents our evaluation of nine "narrow" policy issues that could improve the efficiency and effectiveness of Clark County's concurrency program.

OVERVIEW OF NARROW POLICIES

Table 3-1 lists each of the nine "narrow" policy subjects, the County's current policy and potential changes for each of the subject areas.

Table 3-1. Narrow policy issues for concurrency

Subject	Current Policy	Potential Change
1. Concurrency Test Area	1, 2, and 3 mile radius	Traffic shed unique to each corridor (dimensional change) Traffic shed replaces traffic study (systemic change)
2. Corridor Speed and Intersection Delay Standards	Specific speeds for each corridor plus limit on delay at intersections	Adjust to improve outcomes consistent with land use plan
3. Modeling for Background Traffic Shifts	Not currently modeled	Test for changes in concurrency due to major capacity projects
4. Through Traffic	Addressed through application of uniform growth rates	Identify through traffic growth rates through modeling No change (1% per year for all corridors)
5. Time Available to Achieve Concurrency	3 years to complete improvements	6 years 1 year No change (3 years)
6. Constrained Facilities	No policy	Define and identify constrained facilities
7. Mitigation Strategies	Developers propose mitigations that are consistent with County plans	Create mitigation by development that is linked to concurrency
8. Fees for Concurrency	No fee	Administrative fee
9. Modes of Travel	Cars and trucks on roads	Adjust corridor speeds and intersection delays where transit is available Reduce trip rate from transit supportive development Exemptions No change

1. CONCURRENCY TEST AREA

Concurrency is a test of the impact of a proposed development on the level of service of the County's transportation system (specifically, its road network). The idea of "concurrency test areas" is to designate which parts of the transportation network will be evaluated to determine whether or not a proposed development will be served by adequate transportation levels of service.

The purpose of concurrency impact areas is to (1) make sure that all significant impacts are tested, while (2) not requiring testing of every trip to every corridor, no matter how far away or how small the impact. The impact area methodology needs to be (1) simple, (2) predictable, and (3) sufficiently comprehensive to capture significant impacts. Any impacts that are allowed to go forward without concurrency testing should be recorded as cumulative impacts (in order to document significant "unaccounted" traffic and avoid creating a loophole in the concurrency system).

CURRENT CLARK COUNTY POLICY

Clark County currently has three distance thresholds for determining which corridors to test for the impacts of proposed development. The impact of proposed development on a corridor is tested in a geographical area that reaches out from the corridor like a ripple on the surface of a pond reaches out from the point at which a pebble hits the surface of the water. The threshold that is used depends on the amount of impact created by the proposed development. Table 3-2 show these thresholds.

Table 3-2. Concurrency impact thresholds and test area size

Number of Trips Generated by Proposed Development	Concurrency Test Applies to Each Corridor Within Following Distance from Proposed Development
50 or fewer trips	Corridors within 1 mile
51 - 250 trips	Corridors within 2 miles
More than 250 trips	Corridors within 3 miles

The County's present policy requires an applicant to submit a traffic study that quantifies the impacts of the proposed development. The County uses the distance thresholds listed above to determine which corridors are to be reviewed to determine the impact of the development proposal as quantified by the traffic study.

The current policy allows the County, developers, and interested parties to predict which corridors will be evaluated for concurrency for each proposed development. Beyond that predictability, it is not clear that the distance-based approach to determining concurrency test areas is useful. First, the traffic study has to be prepared regardless of which corridors are indicated by the distance threshold. In other words, the applicant's traffic study has to

document all traffic impacts, even if they are in corridors that are not covered by the distance threshold. Second, the distance thresholds create areas of presumed impact that call for testing development that may not, in fact, have significant impact on a particular corridor. In other words, some transportation corridors are tested that are not significantly impacted by a particular development. Finally, the current system omits corridors that are significantly impacted by a particular development, but which are beyond the distance threshold listed above.

POTENTIAL CHANGES TO POLICY

Change to current County policy can be dimensional or systemic. *Dimensional changes* would alter the size and shape of impact areas while leaving in place the use of traffic studies. *Systemic changes* to impact areas would begin with the same changes to the size and shape of impact areas as the dimensional changes described above, but would replace traffic studies for concurrency with a system of annual or semi-annual concurrency analysis of each traffic impact area that determines the concurrency status of each TAZ.

DIMENSIONAL CHANGES TO CONCURRENCY TEST AREAS

Dimensional changes to concurrency test areas would cause each corridor to have its own unique traffic impact area that is based on traffic analysis zones (TAZs) that meet specified criteria different than, or in addition to, the County's current distance thresholds (e.g., 1-, 2-, or 3-mile radius).

There are a variety of criteria that could be used to identify the TAZs that would be designated as the impact area for a corridor. The following are examples of such criteria:

TAZs that contribute, cumulatively, to a large percent of the traffic in the corridor

- TAZs that produce 75% of trip ends[1] in the corridor (starting with the TAZ that sends the highest number of trips, then the second highest, and continuing until the cumulative trips equal 75% of corridor volume). For purposes of this analysis, the trip ends reflect all trips that use any segment of the corridor. For example, if 100 trips use any portion of the corridor, then 200 trip ends would be included in the analysis of the traffic shed. For a 75% cumulative traffic shed, the TAZs that have the highest number of trip ends impacting the corridor are included until the total number of trip ends reaches 75%, or 150 trip ends in this example.)

[1] A trip end reflects either the origin or the destination of a trip. Each trip has two trip ends.

- TAZs that account for 0.5% or more of the trip ends than impact the corridor. For example, if a corridor has 10,000 trips (20,000 trip ends) then any TAZ that accounts for 100 trip ends (origins AND destinations, combined) would be included.

TAZs that contribute, individually, a large percent of their traffic to the corridor

- TAZs that send 20% or more of their traffic (trip ends) to the corridor. For example, if development in a TAZ generates 200 origins and 400 destinations (600 total trip ends) then the TAZ would be included in the traffic shed if 120 of those trip ends were associated with travel in the concurrency corridor.

- TAZs that send 10% or more of their traffic to the corridor.

TAZs that send a significant number of trip ends generated in the TAZ to the corridor that is impacted by the TAZ

- TAZs that send at least 30 trip ends to the corridor.

- TAZs that send at least 20 trip ends to the corridor.

TAZs that are within a specified distance from the corridor. This is the system the County uses now.

- TAZs that are within 2 miles of the corridor.

- TAZs that are within 1 mile of the corridor.

Maps of the alternatives described above are presented in Appendix A, Figures 3A-3E and 4A-4E.

TAZs that meet a combination of criteria.

- TAZs that send 10% or more of their traffic to the corridor and send at least 30 trips to the corridor.

- Any TAZ that meets two or more of the following criteria:

  1. Radius (1 mile)

  2. Corridor volume: TAZ is one of the group of TAZs that cumulatively account for 75% of trip ends in the corridor, or other measures of corridor volume such as those described above.

  4. TAZ output: TAZ sends to the corridor at least 10% (or 20%) of the trip ends generated in the TAZ impacting the corridor.

There are many variations on the use and application of criteria to identify concurrency test areas. For example, corridors to be analyzed could be based on the land use type in a TAZ: residential development in a specific TAZ would be checked for concurrency in Corridor 1, but retail job development in the same TAZ would be tested for concurrency in Corridors 1, 7, and 8. Alternative methods are also available for defining traffic impacts in terms of percent of trips, instead of trip ends.

Another variation is to use the impact area to identify the TAZs that are automatically tested for that corridor, but additional TAZs would also have to be tested for a corridor if the development proposal generates more than a specific threshold of trips. There could be a list of all TAZs with each TAZ having a list of the concurrency corridors that are automatically tested (through whichever methodology is selected). Development in that TAZ may be required to be tested in additional corridors if the development exceeds a specific threshold of trip generation.

Some of the criteria described above appear to be different, but tend to measure similar impacts. For example, the percent of traffic (or trip ends) in the corridor and the number of trip ends in the corridor all measure the relative impact of each TAZ to the total number of trip ends in the corridor. These types of measures tend to include the bigger TAZs (as opposed to small TAZs) since they may generate proportionately more traffic for the same land area. These criteria can result in fairly small traffic contributions from outlying TAZs being included in the concurrency test area.

The percent of traffic (or trip ends) from TAZs is independent of the size of the TAZ, and is probably the stronger measure of the potential impact of development on a concurrency corridor.

It may be better to use the percent of TAZ trip ends that go to a corridor, rather than the TAZs that account for a percent of the corridor's trip ends, but either approach is better than the radius mileage system which doesn't directly take into account likely travel patterns.

The threshold values selected for a criteria will significantly affect the size and shape of the area of impact. For example, in the Phase III modeling, traffic sheds based on 20% of traffic from a TAZ were markedly smaller than traffic sheds that required only 10% of a TAZ's traffic to go to the corridor.

SYSTEMIC CHANGES TO CONCURRENCY TEST AREAS

Systemic changes to impact areas would include the same changes to the size and shape of impact areas described above, but traffic studies for concurrency would only be needed in one of three outcomes of a program of annual or semi-annual concurrency analysis. TAZs could be coded according to the results, as shown in Table 3-3.

Table 3-3. Example of systemic use of concurrency test areas

TAZ Color Code	Concurrency Analysis Results	Status of Development
Green	Forecast travel speed is at least 10% faster than the standard for the corridor	Approvable for concurrency purposes without a traffic study for concurrency.
Yellow	Forecast travel speed is at less than 10% faster than the standard for the corridor	Only approvable for concurrency if traffic study demonstrates outcomes unique to the proposed development.
Red	Forecast travel speed is at equal to, or slower than the standard for the corridor	Not approvable for concurrency; traffic study will not alter outcome.

Since most TAZs impact more than one corridor, a TAZ's color code would be equal to the lowest corridor results. If, for example, a TAZ impacted three green corridors and one red corridor, the TAZs color code would be red.

In this systemic change to impact areas, if a development is in a green TAZ it is approved for concurrency without a traffic study for concurrency because all the corridors it impacts are sufficiently above the standard that it is not likely to fail for unexpected reasons. If proposed development is in a red TAZ, it cannot develop, so a traffic study is not necessary. Only the yellow TAZs require traffic studies for concurrency. This use of concurrency impact areas provides simplicity and predictability. The results are may be slightly less precise than a concurrency traffic study for every development, but the 10% cushion above the standard will ensure they are sufficiently accurate to provide levels of service within concurrency standards.

Under this policy alternative, a traffic study may still be required to evaluate site-specific transportation impacts such as safety and access. However, the potential elimination of a broader traffic study to cover aspects of concurrency would likely reduce the overall scope and costs of the traffic study.

ANALYSIS

In Phase II of this study we analyzed six corridors by comparing the three-mile radius to a "traffic shed" composed of the TAZs that contribute 75% of the trip ends associated with traffic in the corridor. TAZs that contribute at least 15 -25 trip ends to the corridor would be included in the 75% threshold, and TAZs that contribute less are not included.

Table 3-4 indicates the distance radius method lacks close correlation to the impacts of development. There are many circumstances in which the TAZ based traffic shed did not closely match the 3-mile radius. In some cases, significant traffic in a corridor came from TAZs that are farther than the 3-mile radius, thus omitting from automatic concurrency review potentially significant traffic. In other cases, there are TAZs within the 3-mile radius

that generate little traffic in the corridor, but which are currently covered by automatic review.

Table 3-4. Comparison of traffic impacts to distance from corridors

Corridor	TAZs Beyond 3 Miles Generate Significant Traffic in the Corridor	Areas Within 3 Mile Radius Generate Little Traffic in the Corridor
Hazel Dell Avenue		Parts of downtown Vancouver
Highway 99	Port area (west of downtown)	Some of downtown Vancouver, and some of eastern portion of 3 mile area
Salmon Creek Avenue	Ridgefield and La Center areas	Northeast portion of 3 mile area
NE 72nd Avenue	Many TAZs north of SR 502	Northwest portion of 3 mile area
Gher/Covington	North of Salmon Creek Greenway; Highway 99 corridor; I-5; SR 503; Battle Ground	TAZs around perimeter
SR-503	Battle Ground and north of Battle Ground	Northwest and southeast portions of 3 mile area

In Phase III of the study additional modeling was done to evaluate other alternatives to the mileage radius approach. Two corridors were studied: SR 503 and Salmon Creek. Impact area maps were prepared for each corridor that represent TAZs selected on a variety of criteria:

- TAZs that accounted for a specified percent of the trip ends associated with traffic in a corridor (i.e., 0.5% of corridor traffic).
- TAZs that sent at least a specified percent of their trip ends to the corridor (i.e., 20% or 10% of the TAZ's traffic went to the corridor).
- TAZs that generated at least a specific number of trips in the corridor (i.e. 30 trip ends).

The results of the Phase III analysis are described in Appendix A (Transpo's model results) . The modeling research for this study demonstrate clearly that development that is within the 3-mile radius of a corridor does not account for all of the traffic in that corridor, and furthermore that much of the traffic generated within a corridor also travels on other corridors. The single distance measures have been shown to not capture the full impacts in a corridor and could stop development where it has limited impact on a corridor.

It appears that using the TAZs to draw a customized "impact area map" would more accurately capture the potential impacts of development on the concurrency corridors, while omitting areas that are relatively "close" but which do not create significant impacts. The County needs some additional ways to define who is tested for concurrency should be used.

Different concurrency test areas could be developed based on the type of development (i.e. residential, retail, non-retail commercial). This would further tie the potential traffic impacts in a corridor to the anticipated impacts of a development.

One outcome of the current policy is that it gives lower trip-generating development an effective "discount" compared to higher trip-generating development because the lower trip-generating development is typically tested in fewer corridors. This is not an outright exemption for small development (a practice that is not authorized by GMA and which the County repealed when it adopted it's updated concurrency ordinance in 2000). Changing the basis of the impact area will improve the accuracy of identifying the areas from which development impacts corridors. That change may be sufficient reason to shift to a single map for each corridor, with the beneficial side effect that it would be easier to understand and administer.

Care should be taken to define and apply thresholds to avoid undesirable outcomes. For example, a threshold that includes the TAZs that contribute the greatest number of trip ends and cumulatively account for 75% of the trip ends, could consist of one TAZ contributing 74% and one more contributing 1%, or it could consist of 75 TAZs, each of which contribute 1%.

The effect of smaller developments needs to be tracked. Controls are needed to prevent applicants from breaking larger developments into smaller parts to circumvent the concurrency test. At the time this study was conducted, County staff were considering a formal planning review of boundary line adjustments and a requirement that any boundary line adjustments be reviewed and completed prior to the submission of the subsequent subdivision of the property.

Traffic shed maps and analysis were based on 2020 forecasts. Another part of the policy question concerns what year to use. Shorter time horizons (6 or 10 years) would probably be more accurate, but could cause more frequent changes in the size and shape of impact areas.

Our analysis used both inbound and outbound traffic. The City of Vancouver Transportation Management Zones (TMZ) are based on an analysis of trips in a corridor (instead of trip ends). The TAZs that have the highest number of trip destinations are selected for the TMZ. The TMZ boundaries are further adjusted to define a fairly contiguous boundary, eliminating outlier TAZs. This process leads to more compact traffic sheds that are more directly related to the corridor, than the trip end process described above for this study. The use of p.m. peak destinations for the initial selection of TAZs for the traffic shed would likely stress the impacts of residential impacts in a corridor.

CONCLUSIONS

A dimensional change in policy should be as simple as possible, but based on some measure of traffic impact from a TAZ on a corridor. Thresholds could be set differently for different parts of the County to support the particular growth management window for the corridor (a smaller percent for slow/stop growth versus a higher percent for accommodate or stimulate growth). The traffic impact measure could be combined with a distance measure or minimum number of trip impact threshold.

Applying more than one measure may make the program seem more complicated to elected officials and the public, but if the multiple measures can be treated as an index or grade or color code, it will be easier to understand.

A systemic change that replaces traffic studies for concurrency with annual analyses is the key to a significant improvement in simplicity and predictability, but it requires a much greater effort by the County in order to set it up and maintain it. The systemic change might help accomplish the county's larger goals if individual corridors and/or TAZs are green to accommodate or stimulate growth, while others are yellow to slow or shape growth, and still others are red to stop growth.

2. CORRIDOR SPEED AND INTERSECTION DELAY STANDARDS

Since corridor-based concurrency is the "best practice" state of the art, we do not recommend a fundamental change in methodology. The County could consider targeted changes to specific speed standards for corridors, and/or specific delay standards for intersections in order to further its growth management and economic development objectives.

CURRENT CLARK COUNTY POLICY

Clark County currently establishes specific travel speeds for each corridor, and a threshold limit on the amount of delay that is acceptable at intersections in the corridor.

The County's policy reduces the standards by 3 miles per hour for family wage job development. The policy has not been used to date. The criteria is quite detailed and is applicable only to master plan development

POTENTIAL CHANGES TO POLICY

Concurrency standards could be adjusted to support growth in certain areas and to stop, slow or shape growth in other areas. Slower speed standards and longer intersection delays could be set to allow growth to continue in areas where growth is desired. At the same time, faster speed

standards and shorter intersection delays could be set to shape, slow, or even stop growth in areas where development is not desired.

Travel speed standards and intersection standards can also be supportive of multi-modal transportation alternatives. For example, where good transit levels of service are provided, and/or non-motorized travel options are available, some local governments allow a lower standard for vehicular travel on the theory that more people will use non-automotive alternatives when car traffic is highly congested. Ironically, bus-based transit systems are stuck in the same traffic, although there is an increasing use of queue-jumps, transit/HOV lanes and other strategies to enable bus transit to operate more effectively in an otherwise congested roadway network.

The standards could also be based on the density along a corridor, with a lower standard allowed for the higher density areas and a higher standard required for lower density areas. The speed standards in a corridor also could be set based on if development impacting the corridor is in a rural or urban area. King County sets a requirement for developments in rural areas to meet a higher level of service standard than developments in an urban growth area, even if the developments impact the same corridors.

Traffic signal timing in a corridor directly affects the resulting travel speeds produced as part of the County's current concurrency program. This policy can also assist in evaluating the sensitivity of the Traffix model results based on signal timing parameters. Changes in travel speed standards should be used to allow for variations in how and when changes in the timing of traffic signals are made by the County.

ANALYSIS

Standards for corridor speed and/or intersection delay are the heart of the concurrency system. The standards establish how high or low the bar is set in order to be able to approve or deny development.

Washington's Growth Management Act requires local governments to test proposed development for concurrency in order to ensure that the development won't cause the transportation system to operate below adopted standards. The GMA authorizes each local government to set its own standards, so the pass/fail mark for the concurrency test in Clark County is set by the County.

The County's approach of customizing level of service (LOS) standards for individual corridors is similar to the policy of 58% of cities and counties surveyed by the Puget Sound Regional Council in September 2001. The largest portion tailor their LOS by geographical subareas, which is the same approach as Clark County's tailoring its standards by corridor. Another slightly smaller group of local governments tailor their LOS by the type of facility (i.e., arterial v. collector).

Establishing standards is ultimately a policy decision. Technical work supports the policy decisionmaking process, and the standards are monitored (even "enforced") by the model, but the model does not set the standards. Because of this understanding of this policy issue, we did not model changes in corridor speeds or intersection delays.

There are several reasons it is appropriate for the County to review and revise its standards. First, the initial speed standards were set based on a different method than is being used in the day-to-day testing of concurrency. The Traffix methodology provides more detail at the key delay points (intersections). Second, the County is about to create an Economic Development Plan that will support County goals for developing jobs. Transportation is an important component of economic development, and concurrency can be either an incentive or a disincentive, depending on what concurrency standards are used.

An important early step in implementing any revisions to standards would be to classify each corridor consistent with County goals for job development and other goals. Corridors could then be categorized as "stop/slow, shape, accommodate or stimulate" and standards could be raised or lowered, as appropriate to the County's goals.

Another implementation issue is the definition of the corridor. For example, in the Salmon Creek corridor the standard could be set without considering the intersections between I-5 and I-205 (20th, SR 99, and the I-205 northbound off-ramp).

Standards should be reviewed for consistency in cases where corridors intersect each other.

Eventually, the state-mandated process will be completed for identifying and establishing level of service standards for highways of regional significance. State law requires these facilities to be part of the County's concurrency system.

CONCLUSIONS

Standards could be changed to adapt to the current method for setting speed standards.

Changes in the standards could also be used to target support for County land use and economic development goals by supporting or at least accommodating growth in specific corridors by reducing standards while shaping, slowing or stopping development in other corridors by increasing standards.

3. BACKGROUND TRAFFIC SHIFTS

Traffic patterns and volumes are affected by the availability of capacity in a specific corridor and on roads in the vicinity of a corridor. Shifts of traffic associated with the widening of an arterial or constructing a new roadway can greatly affect the volumes and therefore the results of a concurrency test for a development.

CURRENT CLARK COUNTY POLICY

Clark County currently incorporates publicly and privately funded transportation improvements that are expected to be complete in three years into the concurrency tests for each development. The improvements are only coded into the Traffix model for estimating intersection delays and levels of service.

POTENTIAL CHANGES TO POLICY

An alternative to the existing approach would be to make adjustments to the base traffic volumes used in the concurrency test. The adjustments would be made to reflect the potential shift in traffic associated with widening an arterial or constructing a new road.

ANALYSIS

The potential shifts in traffic from (or to) a corridor due to improvements in the corridor or in a parallel corridor are not taken into account in the County's current day-to-day implementation process. Over the near-term horizon used for concurrency tests, this approach can result in either over- or underestimates of traffic volumes (and speeds) in the corridor.

During Phase III of this study, RTC assigned the 2005 travel demands to the 1999 EMME/2 model network. The 2005 travel demands were reassigned, allowing traffic to shift between corridors. The resulting adjusted traffic volumes were input into the Traffix model to replicate corridor conditions with and without the transportation improvements and the resulting traffic shifts. The Traffix output was used to estimate corridor travel speeds with the major capacity improvements. A comparison of the resulting speeds with the 2005 baseline model was prepared to provide an indication of the impact of these major transportation projects on the travel speeds and concurrency. The travel speed evaluation was conducted for the Highway 99(S) and SR 503(S) study corridors. Both of these corridors were anticipated to be affected by improvement projects that would likely shift travel patterns. The assignment of 2005 travel demands to the 1999 network would provide a fairly extreme assessment of the potential affects that regional capacity improvements have on traffic routing and therefore, on concurrency.

A second test was also conducted for the same study corridors. The second test involved modifying the 2005 RTC model network to reflect removal of the added capacity provided by improvement projects for widening I-5 between Main and NE 134th and extension of Padden Parkway east of SR 503. The Traffix model was rerun to obtain revised travel speeds to see how much impact major "baseline" improvements have on concurrency evaluation.

The results verified our hypothesis. Highway 99 (S) and SR 503 (S) showed significant shifts in traffic volumes and travel speeds, especially with the 2005 travel demands assigned to the 1999 network. The assignment on the 2005 revised network showed less shift in traffic without the widening of I-5 or Padden Parkway extension compared to the 1999 network, due to other improvements in the 2005 network.

The modeling process resulted in one unexpected result. Using the Revised 2005 Network assignments, travel speeds on southbound Highway 99 (S) improved over 2005 baseline conditions, rather than slowing. This was caused by significant increases in signal green time associated with the large increase in northbound (peak direction) traffic volumes. The added green time to accommodate the higher peak, northbound traffic flows also provided more green signal time for the southbound traffic. Since southbound traffic did not increase proportionally as much as northbound traffic, the average delays for southbound traffic decreased. The decrease in traffic delays resulted in higher travel speeds in the southbound direction.

On balance, we conclude that major improvements that are programmed for construction within the 3-year concurrency horizon, such as widening a parallel corridor, can significantly affect traffic volumes and therefore the travel times and speeds. This process could attract traffic to a concurrency corridor if it is to be widened. The County's current process doesn't reflect these impacts.

Implementation of this potential policy change would require an interface with the regional RTC travel demand model or development of an alternative approach. The adjustment to existing, or background traffic, assignments in the concurrency corridors could be done once a year, at the same time that the County is updating the travel times and traffic counts for the base year.

Models, like EMME/2, which rely on an equilibrium assignment algorithm, may "over" shift traffic. The County and RTC would need to carefully review the results for reasonableness. The adjustments could be challenged, just like King County's model was challenged. The final numbers may need to be legislatively approved each year to avoid appeals, but this can tie the staff's hands in dealing with a development.

The County needs to be cautious about the definition of "background" traffic because some shifts may be due to growth being more (or less) than planned or estimated (as opposed to more background traffic).

CONCLUSIONS

The County could work with RTC to update the background traffic flows based on shifts in model assignments from a current network to a network with the major “committed” improvements in place. Adjustment factors that account for the shift in traffic could be developed and applied to the baseline Traffix model data.

Any effect of this policy change on "stop or slow, shape, accommodate, or stimulate growth" is likely to be incidental because the change is an annual update of baseline data, not an intentional change in policy outcomes. Nevertheless, the update could affect the concurrency status of one or more corridors.

4. THROUGH TRAFFIC

Travel speeds and intersection delays used in the County's concurrency policy are based on field data and estimates of future traffic volumes in a corridor. Forecast traffic volumes consist of traffic from approved and proposed developments within the County as well as "through traffic" from other jurisdictions.

CURRENT CLARK COUNTY POLICY

In evaluating concurrency, Clark County currently accounts for traffic outside of the immediate vicinity of a concurrency corridor or from other jurisdictions by increasing existing traffic counts in each corridor by one percent a year for three years. Traffic from development projects that have been approved for concurrency (per the existing impact area standards) is then added onto the existing plus 3 percent base year traffic volumes. The one percent per year estimate is applied to all of the concurrency corridors. Prior to recent adjustments in the process, the County applied a 2 or 3 percent growth rate for three years depending on the location of the corridor.

POTENTIAL CHANGES TO POLICY

One option to the existing practice of applying uniform growth rates to all traffic corridors would be the development of corridor specific growth rates. This could be done based on historical trends or by looking at 6 to 10 year growth projections.

A more challenging change in policy would be to attempt to determine the amount of development in jurisdictions that send traffic through Clark County and use those growth estimates as the basis for growth rates.

ANALYSIS

Florida has had transportation concurrency since the mid-1980s. Their experience is that pass-through traffic that originates in other jurisdictions

can be significant in some jurisdictions. The extent of through traffic is particularly strong in communities situated on major corridors or intersections. The ability to coordinate transportation and land use actions is made more difficult by the variation in level of service methods and concurrency programs among neighboring jurisdictions.

Howard County, Maryland includes the impact of trips originating and ending outside the County. California allows counties to exclude externally generated trips from level of service calculations for congestion management plans, but some consider this a shortcoming rather than an asset.

The Puget Sound Regional Council surveyed concurrency practices in 68 cities and counties in September 2001. Over 85% said that they have some form of coordination among jurisdictions, but most indicated that it is in the form of sharing information or joint review of applications through SEPA. Only 16% coordinate standards, modeling and/or measurement methods, and 26% account for development outside their jurisdiction.

During the modeling for Phase III of this study, we developed growth rates by comparing the 2010 model results to the 1999 model data. The growth rates were developed after subtracting growth from TAZs associated with the impact area (3-mile radius per existing policies). This growth rate was compared to the existing County practices to see if adjustments were needed.

Two case study corridors were reviewed Highway 99 (S) and SR 503 (S). The results for Highway 99 (S) were that there were virtually no "through trips" in the corridor for any of the scenarios due to the range of the 3-mile buffer and availability of I-5 for longer trips. The through trip growth rate indicated by model results is 0 percent per year. The results for SR 503 (S) results indicate approximately a 1 percent per year growth rate for through traffic. The results of this analysis are described more fully in Appendix A (Transpo's model results) .

From this analysis we conclude that growth rates used to represent increases in through traffic are likely to be different for each corridor. However, using different growth rates for through traffic would probably have insignificant impact on the concurrency model results because of the short, 3-year horizon and small(1% per year) growth rates. If the traffic shed for concurrency is modified to reflect the highest traffic impact areas, then the impact of through traffic will be even less since some of the through trips would then be directly included in the concurrency database.

Jurisdictions approve development that meets their concurrency requirement, but many fail to coordinate with other jurisdictions that are affected by the traffic from the originating jurisdiction.

Tracking traffic from all developments through all corridors will require additional County resources to accurately maintain the concurrency database in Traffix.

CONCLUSIONS

Each corridor has different growth rates for through traffic. However, the differences likely will have little affect on the concurrency program results, therefore the most prudent action would be to take no action. At the most, as part of an annual update of other data, there could be adjustments for through traffic.

There is little or no effect of this policy change on "stop or slow, shape, accommodate, or stimulate growth" because the change, if any, is not significant.

5. TIME AVAILABLE TO ACHIEVE CONCURRENCY

"Concurrency" in growth management does not have the same meaning as in a dictionary. "Concurrent" in the dictionary means "at the same time as". "Concurrency" in growth management means "no more than a specified time after development". Washington's Growth Management Act allows up to 6 years for transportation concurrency.

CURRENT CLARK COUNTY POLICY

Clark County currently includes in its concurrency evaluation all existing roads plus publicly funded transportation improvements that will be completed within three years. Improvements required of private developments that have been approved also will be included, if they are expected to be completed before occupancy of the proposed development.

POTENTIAL CHANGES TO POLICY

There are two potential changes to the current policy, each takes an opposite direction.

The first change to this policy would be to reduce the time for transportation improvements to one year. This effectively "guarantees" that the planned improvements will be built because they are in short-term budgets that are based on grants that have been awarded plus near-term receipts of local revenues that can be forecast with some accuracy.

If the 1-year network causes significant increases in concurrency "failures", it will demonstrate the importance of the reliability of funding for the 3-year list because any shortfall in projected funding would jeopardize delivery of the transportation improvements that are needed to maintain concurrency levels of service.

The opposite change would make concurrency "easier" by extending the time for transportation improvements to be completed. The maximum extension would be to 6 years, as allowed by GMA. The effect of this extension is generally to include more transportation improvements than in

a 3-year list because additional funding becomes available in the additional years. The risk is that projects will be included for which financing is not assured.

If the 6-year list makes significant difference compared to both the 3-year and 1-year list, it would demonstrate the importance of securing long term funding, and/or the need to use short-term improvements lists in order to avoid reliance on road improvements that may not be built. If, however, the 6-year network did not significantly change the outcome, it could reinforce the validity of the 3-year list.

ANALYSIS

As part of the Phase III traffic modeling for this study, we tested both approaches by modeling two networks, one based on the 6-year capital facilities plan or similar transportation improvement plan, and the other based on the 1-year budget. RTC developed forecasts for two scenarios using the "1999 plus approved developments" travel demands, which has been labeled the 2005 travel demands, since the approved developments account for approximately 6 years of anticipated growth in the region. The modeling and analysis are described in Appendix A (Transpo's model results).

Two case study corridors were selected with Clark County and RTC based on the current TIP: Hazel Dell and Highway 99 (S). In both study corridors, there was essentially no change in corridor travel speeds between baseline (3-year) and 1-year scenarios. The 1-year speeds increased very slightly for Highway 99 due to slightly lower volumes assigned to the corridor and changes in signal timing.

Travel speeds with 6-year network improvements declined versus baseline due to changes in travel patterns, an additional signal at Hazel Dell/NE 117th extension, and signal timing revisions by Traffix based on the changes in traffic volumes.

The model results seem to indicate that there is little difference among the 1-year, 3-year, or 6-year lists of proposed capital improvements. Added capacity will attract more traffic, offsetting anticipated improvements. Some improvements will improve one corridor and adversely affect another. Furthermore, we would expect in the long-term that the consistent application of the transportation improvement projects probably does not have a significant impact on concurrency results.

It is possible that other corridors might be more sensitive to improvements in or near those corridors. The improvements we tested made little difference, but other larger changes, such as widening I-5 or constructing a new interchange, could result in big differences that were not part of our test (see discussion under policy on Shifts in Background Traffic). As a result, we are reluctant to conclude that this policy alternative is not viable. Nevertheless, we are persuaded that the absence of significant differences in two corridors is enough reason to leave in place the existing

policy of including the improvements planned for the next 3 years. If, however, the County does not make adjustments to background traffic (as described in issue 3, above), then the issue of the time horizon for capital improvements may have more of an impact.

An important consideration in any modification of this policy is the definition of key terms such as "funded", "completed", and "reasonably anticipated". Inevitably, any time limit cause some situations to just within the time limit, while others are just beyond its reach.

CONCLUSIONS

Changing the implementation process to include only capital improvements planned for completion in the first year is a poor match for the amount of time required by many development projects to get permitted, built, and fully occupied. A 1-year policy would effectively guarantee that all transportation facilities are in place at about, or in advance of, the time that the development is complete. This could inadvertently restore the dictionary's definition to the term "concurrency" for transportation.

A 6-year horizon could provide more capacity overall and could be advantageous in some corridors. However, the effect would be primarily a one-time increase of capacity when years 4, 5 and 6 are added at the time the policy is changed. Thereafter, the continued use of the 6-year horizon would have no effect. Since the later years of a TIP (especially the WSDOT program) are more subject to variation, the 3-year horizon is sound policy.

If application of a 1-year time limit had proven to make a significant difference, we would assume a decrease in approvable development, and thus an across-the-board tendency to stop or slow development, or to shape development based on the location of more limited capacity in the transportation network. Conversely, if a 6-year time limit had a demonstrated difference, we would expect more ability to accommodate or stimulate growth.

6. CONSTRAINED FACILITIES

There are circumstances when a transportation facility is constrained in ways that prevent increasing its capacity. If such a facility is a concurrency corridor, it can become a bottleneck to further development that is otherwise desirable and consistent with the County's land use plan.

CURRENT CLARK COUNTY POLICY

Clark County currently does not have an explicit policy related to constrained facilities, but there is an informal policy. Lakeshore is planned as a 3-lane principal arterial despite the fact that demand in the future warrants 5 lanes. The County chose to let the level of service decrease in the plan for Lakeshore.

POTENTIAL CHANGES TO POLICY

Clark County could determine whether or not it has transportation facilities that may be "constrained." A policy for constrained facilities could establish lower standards (i.e., slower corridor speeds and/or longer intersection delays).

The "constrained facilities" policy is different than the "fully improved corridor" policy that was considered, but not adopted, by Clark County in January 2000.

ANALYSIS

Palm Beach County, Florida has a process and 10 criteria for identifying and designating constrained roadways that qualify for reduced standards for concurrency: "Constrained Roadway at a Lower Level of Service" (CRALLS).

CONCLUSIONS

Clark County could evaluate the Florida example and develop its own criteria for “constrained” facilities. The County should revise the allowable level of service standard for such facilities.

Identifying “constrained” facilities and a policy of reduced LOS standards will prevent such facilities from interfering with other County policies and decisions that accommodate or stimulate growth, such as job development.

7. MITIGATION STRATEGIES

In some communities, developers can mitigate a concurrency impact by providing transportation improvements that offset the impact of the development.

CURRENT CLARK COUNTY POLICY

Clark County currently can approve and condition mitigation (if volunteered by an applicant) if the County determines that the mitigation will offset the traffic impacts of the development in that corridor. The County also can approve a development with lesser (or no) mitigation in the corridor, if it is determined that achieving the service standard would cause significant negative impacts as identified in a SEPA review. To be considered, any mitigation proposed by the applicant must be able to be completed and/or implemented prior to occupancy of the development.

Clark County also has a systematic mitigation program for some traffic impacts in the form of its transportation impact fee (TIF). The proposed transportation improvements that are the basis for the TIF are not directly tied to the concurrency program.

POTENTIAL CHANGES TO POLICY

One approach would be to conduct periodic and systematic analyses of the need for improvements to maintain concurrency travel speed standards in each corridor, and to include such projects in the list and cost of projects that are the basis for the TIF. The improvements would need to be able to be completed within three years.

A related approach (or a separate option) would eliminate the ability of developers to provide mitigation except for improvements that are part of the TIF list. In other words, if an improvement is needed to resolve a concurrency problem, the developer could either pay the TIF or build the project.

ANALYSIS

A recent survey of 68 city and county concurrency systems by the Puget Sound Regional Council found that nearly 80% have some form of revenue-generating program in place, and some had more than one. The most common are SEPA mitigation fees but there were nearly as many GMA impact fees, and 16% had both. The mitigation fees and impact fees were not connected to concurrency in most jurisdictions.

In most jurisdictions that allow concurrency mitigation the focus is on spot intersection signalization or channelization improvements. These improvements help the agency get transportation improvements in place, but typically in a piecemeal fashion, and often short-term solutions rather than long term fixes.

Mitigation or other fee-based programs would help streamline the process, but only if it fulfills the 6-year requirement of GMA. Perhaps the County could develop “corridor cross-sections” to identify the improvements that will meet long term needs of the corridor. The County could then accept only those improvements as mitigations. If the County cannot analyze all the corridors in the near future, it could start with the corridors that are approaching or below the standard.

The County will need to be careful to not create system where all the cheap fixes can be taken first. The County should not settle for quick fixes and lose the opportunity to get proportionate share contributions to the big solution.

The County will also need to be cautious about the types of improvements that it envisions to maintain appropriate levels of service. A common form of mitigation is a traffic signal at a development’s access to the public street system. That improvement may mitigate the impacts of the individual development, but at the cost of reducing travel speeds on the road that the development accesses. Sometimes the County will have to us other tools, such as access management, in order to preserve levels of service for concurrency.

No modeling effort was undertaken for this policy alternative. If a corridor is out of compliance with the standards, then improvements would be required, whether publicly or privately funded. If they are not funded for construction within three years, then the development would be denied.

An important question will be whether development is required to mitigate impacts to achieve the standard, or simply to achieve the same level of service that existed prior to the development.

CONCLUSIONS

The County needs to establish a direct relationship between transportation projects needed to maintain concurrency speed standards in corridors and the projects included in the County's Traffic Impact Fee list.

The County could begin by listing all corridors that are forecast to go below LOS standards within 3 years. The County could identify the solutions for all such corridors and then incorporate those solutions in the TIF (or a separate SEPA mitigation fee program that is just for concurrency).

A viable mitigation program, whether based on GMA or SEPA, will enable the County to, shape, accommodate, and even stimulate growth by providing needed infrastructure at a predictable cost to development.

8. FEES FOR CONCURRENCY

It costs money to run a concurrency program. To the extent that changes in policy may cause changes in implementation costs, it may be appropriate to consider fees for processing concurrency reviews.

CURRENT CLARK COUNTY POLICY

Clark County charges a variety of fees for reviewing and approving development proposals, but there is no fee for evaluating concurrency. Some of the time to review traffic studies may be covered by other existing fees.

POTENTIAL CHANGES TO POLICY

The County could charge an administrative fee for concurrency reviews.

ANALYSIS

It takes time to assess the status of concurrency. A fee for evaluating concurrency for proposed development would be consistent with the County's policy of cost recovery: to have such reviews paid for by the development.

King County charges $60 for concurrency reviews, and $360 if the County needs to run its model as part of the concurrency review.

If the County wishes to charge a fee for concurrency review, it will need to add concurrency as a separate reporting code in the County's time tracking system (which is becoming the basis for determining the amount of fees.

Also, a work flow analysis should be undertaken to determine how the concurrency portion of reviewing traffic studies relates to the County's existing fee structure.

CONCLUSIONS

It would be consistent with the County's policy of cost recovery to establish an administrative fee for concurrency reviews.

If the County embarks on any or all of the "broad" policy changes described in Chapter 4, an administrative fee could recover the cost of additional services as well as start-up costs to establish the new policies.

9. MODES OF TRAVEL

The largest portion of travel occurs in motor vehicles on roadways, but important ground transportation alternatives exist via transit, bicycle, and walking. Other alternatives include multiple occupancy of motor vehicles, such as carpools and vanpools, and telecommuting. Still other ways exist to minimize peak period travel by cars and trucks on roadways, including specific transportation demand management (TDM) and transportation systems management (TSM) programs.

CURRENT CLARK COUNTY POLICY

Clark County currently supports a variety of travel mode alternatives to varying degrees. Concurrency, however, applies only to roads, streets, and some highways, not to bus, rail, pedestrian or bicycle facilities, except that the construction of public transit facilities is exempt from the concurrency impacts on the road system.

POTENTIAL CHANGES TO POLICY

One policy option would be to adjust the travel speed and/or intersection delay standards based on proximity to transit service or other measure of transit level of service (LOS). This would provide some incentives for developments within a corridor as opposed to developments that are further away and are not (or cannot be) well served by transit.

Another policy option would be to provide credits to transit supportive development in the form of reductions to forecast trip generation.

A policy option used in Florida, but not authorized by Washington statutes, is an exemption from concurrency for development that meets criteria relevant to alternative travel modes, trip reduction or urban density.

There are more significant policy changes for modes of travel. They are explained below under "Broad Policy Changes" (see Multi-Modal Concurrency).

ANALYSIS

The Puget Sound Regional Council surveyed concurrency in 68 cities and counties in September 2001. Fifty percent address only automobiles, and the other half address one or more other modes: transit, non-motorized and "transportation demand management/land use".

Travel speed standards and intersection standards can be used to support multi-modal transportation alternatives. For example, where good transit levels of service are provided, and/or non-motorized travel options are available, some local governments allow a lower concurrency standard for vehicular travel because congestion is believed to be an incentive to increased use of non-automotive alternatives. This would have the effect of allowing more development in these areas than would otherwise occur. But lower levels of service produce more traffic, and bus-based transit systems often use the same congested roadways. Some local governments are trying to overcome this dilemma by increasing their use of queue-jumps, transit/HOV lanes and other strategies to enable bus transit to operate more effectively in an otherwise congested roadway network.

This study is concerned with concurrency, therefore we do not explore many other ways that governments can encourage the use of non-automotive modes of travel. An overview of such programs is provided in Appendix C (Ebenhoh's 3/8 incentives memo) and Appendix D (Ebenhoh's 3/11 additional memo).

The remainder of our analysis is devoted to three concurrency policy alternatives that support increased use of alternative modes of travel: reduced standards, trip reduction, and exemptions.

REDUCED STANDARDS

King County, Washington considers the availability of transit in determining the acceptable standard for automobile levels of service. For example, transit oriented urban areas can accept development if traffic is in a range of 90-99% of capacity, but auto oriented urban areas must maintain 80-89% of capacity in order for development to occur.

Seattle applies different LOS standards to different roads. These seem to be based on recent actual LOS rather than on any policy to favor the most central or most dense part of the city. There is no expressed relationship between the standards and alternative modes of transportation.

Many jurisdictions in Washington and Florida already lower concurrency standards in dense urban areas to recognize the difficulty in expanding auto capacity in these areas and to avoid pushing development into suburban areas. These urban areas usually have good transit service, though transit service is not usually given explicitly as a reason for the lower concurrency

standards. Fort Lauderdale, Florida is an example of a jurisdiction that has lowered its LOS in dense urban areas.

Sarasota County and Okaloosa County list different standards for different roads without referring to a desire to promote urban infill or central city redevelopment or alternative modes of transportation.

Several jurisdictions list road segments as "constrained facilities" that, because of physical, environmental or policy constraints, cannot achieve the same LOS as other facilities. Palm Beach County, Florida has a Constrained Roadways at Lower Level of Service (CRALLS) system that reduces concurrency LOS standards for roads that meet stringent CRALLS criteria. Other jurisdictions that exempt "constrained facilities" include Sarasota County, St. Petersburg and Okaloosa County.

TRIP REDUCTION

King County originally treated Transportation Demand Management TDM) as a reduction of trips generated for the purpose of concurrency. The County has stepped back from that practice after experiencing difficulty in enforcing the trip-reducing outcomes of TDM programs established by developers.

EXEMPTIONS

Florida's Growth Management Act has two types of exemptions from concurrency: Transportation Concurrency Exception Areas (TCEAs) and projects that promote public transportation (PPPT).

TCEAs exempt development from LOS standards for concurrency as long as the community has other measures to encourage trip reduction, such as TDM, parking control and pricing, creative financing, and public transportation programs. The TCEAs are restricted to existing urban areas to promote urban infill, urban redevelopment, and downtown revitalization.

Communities with TCEAs include Gainesville, Tallahassee, Orlando, and Broward County. The City of Stuart, Florida adopted a TCEA that includes an adjacent "buffer area" where LOS standards exist (unlike in the TCEA itself), but where the LOS standards are 30% lower than outside the TCEA. Alachua County designates PPPT areas.

CONCLUSIONS

The County could reduce speed standards or increase intersection delay standards in order to reflect availability of transit, sidewalks, or even access control (medians). If a corridor serving a development has some of these features that the County wants (or can get from a developer as mitigation) then providing a different standard may help the County to achieve its growth vision.

A simple matrix or formula could be developed that provides reduced travel speed standards if certain elements are in place to help meet the travel demands of a development.

The County could reduce trips from development that meets criteria that supports use of alternate modes of travel. There is little experience to draw on to fashion such an approach.

The County is not authorized by law to exempt proposed development from concurrency.

The County could continue its present policy of not giving special concurrency treatment in order to promote use of alternate modes of travel. Our research is inconclusive regarding whether or not concurrency has a measurable effect on use of alternative modes of travel. It is not clear that more congestion would increase use of bus transit that uses the same congested facilities, but it may increase use of fixed rail and other guideway systems.

The relationship of modes of travel on "stop or slow, shape, accommodate, or stimulate growth" is complex. Job growth increases the need for transportation to places of employment. Job growth in higher density areas can benefit from (and increase the need for) transit and non-motorized travel alternatives. Businesses, customers, and freight and goods movers want fast and easy access by car and truck.

Clark County has previously considered linking concurrency and transit. Two options reviewed in 2001 included: (1) reduce the level of service standard speed in corridors with frequent transit service, or (2) reduce trip generation assumptions for development that is served by corridors with transit service. Neither option was adopted.

Broad Policies

This chapter presents our evaluation of three "broad" policy issues that the County can use proactively as tools to achieve broad policy objectives for land use, economic development, and quality of life.

OVERVIEW OF BROAD POLICIES

Table 4-1 lists the current policy and potential changes for each of the subject areas.

Table 4-1. Broad policy issues for concurrency

Subject	Current Policy	Potential Change(s)
10. Modes of travel	Cars and trucks on roads	Levels of service for transit and non-motorized travel
11. Allocation of Capacity	Market forces; first come, first served	Allocate capacity to specific types of development Allocate capacity to specific corridors
12. Investment Priorities	Multiple factors, diverse investments	Target locations Target modes Target types of development

10. MODES OF TRAVEL

The issues here are identical to the ones described for policy issue 9, above: though, the largest portion of travel occurs in motor vehicles on roadways, but important ground transportation alternatives exist via transit, bicycle, and walking. Policy 9 looks at narrow solutions; this section discusses broader solutions—ones that are more than adjustments to the County's existing policy.

CURRENT CLARK COUNTY POLICY

As noted under policy issue 9, above, Clark County currently supports a variety of travel mode alternatives to varying degrees. Concurrency, however, applies only to roads, streets, and some highways, not to bus, rail, pedestrian or bicycle facilities, except that the construction of public transit facilities is exempt from the concurrency impacts on the road system.

POTENTIAL CHANGES TO POLICY

Clark County could develop levels of service standards for transit and non-motorized transportation in the County's concurrency program.

In addition, two other policy changes listed elsewhere in this memo pertain to alternative travel modes:

- Capacity could be allocated in part to development that achieves specified modal alternatives.
- Investments could be focused on specific travel modes.

ANALYSIS

In September 2001 the Puget Sound Regional Council surveyed concurrency practices in 68 cities and counties. The survey asked which of the following transportation alternatives were addressed by the concurrency system: automobiles, transit, non-motorized and TDM/land use. Half reported testing concurrency only for cars, 29% test cars and one alternative, 8% test cars plus two alternatives, and 13% test cars plus three alternatives. The most frequently used alternative is TDM/land use (33%), followed by transit (27%), then non-motorized (23%).

There is a growing body of information about levels of service for alternative modes of travel. Much of it was identified in the Literature Review of the Phase I report for this study. In addition, Appendices F, G and H contain more recent research we have prepared to inform our analysis (F = Ebenhoh's 3/8 multi-modal memo; G = Ebenhoh's 3/16 memo about Olympia, and H = Transpo's paper about transit LOS for Clark County)

TRANSIT LEVELS OF SERVICE

The state of the art for transit levels of service is the Transit Capacity and Quality of Service Manual (TCQSM) prepared in 1999 for the Transit Cooperative Research Program, Transportation Research Board, National Research Council. The report serves a similar purpose to the *Highway Capacity Manual* by providing guidelines for quantifying analysis of transit system capacity.

Florida's Department of Transportation uses TCQSM measures of LOS but adds an extension in its software that considers pedestrian access to transit, such as mid-block crossing difficulty and sidewalk connections.

Communities that have developed transit LOS include Montgomery County, Maryland, Kirkland and Olympia, Washington, and in Florida St. John's County and the cities of Orlando and Miami.

As noted under policy issue 9, above, King County, Washington considers availability of transit in determining the acceptable standard for automobile

levels of service. For example, transit oriented urban areas can accept development if traffic is in a range of 90-99% of capacity, but auto oriented urban areas must maintain 80-89% of capacity in order for development to occur.

BICYCLE LEVELS OF SERVICE

The state of the art for bicycle levels of service is the 2002 Quality/Level of Service (Q/LOS) Handbook developed by the Florida Department of Transportation. It uses a model developed by Sprinkle Consulting Inc. (SCI), which it says has been applied to over 100,000 miles of roadways in the U.S. and Canada.

The Bicycle Compatibility Index: A Level of Service Concept, Implementation Manual was developed by FHWA in 1998.

PEDESTRIAN LEVELS OF SERVICE

The Florida Q/LOS Handbook is also the state of the art for pedestrian levels of service is the 2002 Quality/Level of Service (Q/LOS) Handbook developed by the Florida Department of Transportation. Other work on pedestrian LOS has been done by Gainesville, Florida, Portland, Oregon, and the International Bicycle Fund.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

As noted under policy issue 9, above, King County originally treated Transportation Demand Management TDM) as a reduction of trips generated for the purpose of concurrency. The County has stepped back from that practice after experiencing difficulty in enforcing the trip-reducing outcomes of TDM programs established by developers.

MULTI-MODAL LEVELS OF SERVICE

The City of Renton, Washington uses a multi-modal concurrency index for its concurrency program. Renton estimates the distance that single-occupant vehicles, high-occupancy vehicles, and transit can travel in 30 minutes from a development site. The distance measures are based on model and field travel time data. The transit value is given a double weighting. The distances (in miles) are summed and compared to a locally developed and adopted standard to determine if a development passes concurrency.

Florida's Urban Infill and Redevelopment Act of 1999 allows for the creation of Multi-Modal Transportation Districts (MMTDs) by local jurisdictions. DeLand, Florida is developing the first MMTD.

Montgomery County, Maryland, has developed an index of automobile and transit congestion. Olympia, Washington is also exploring multi-modal LOS.

Florida's Department of Transportation recommends that multi-modal LOS not consist of one unified measure that attempts to measure level of service for all modes simultaneously. The reasons they give are that there is no professionally accepted or scientifically valid technique for doing so, the difficulty of applying a weight to each of the modes, and differences between functional classifications/purposes of roadways. Because of this, "multi-modal LOS" means, in practice, one LOS for each of the travel modes.

LOS measures are not generally comparable across modes because, though some of them use the same A through F grading scale, a D may be better for autos than it is for pedestrians or bicycles.

APPLYING TCQSM TO CLARK COUNTY

Appendix H presents an approach to applying TCQSM to the Highway 99 corridor in Clark County. The Highway 99 corridor was selected due to the current high level of transit service provided by C-Tran.

C-Tran Route 71 operating between downtown Vancouver and Salmon Creek park-and-ride lot serves the Highway 99 corridor. The transit service along Highway 99 was selected given: (1) current service levels which include 15-minute frequencies on Route 71 during weekday peak and non peal periods, and (2) its importance as a major connector between two important transit activity areas.

Our assessment looked at Route 71 using several criteria relating to transit service quality. Each measure – expressed in terms of grades with A being best and F worst – evaluates an aspect of service and facilities to determine what can be improved. For Route 71, the following measures have been identified:

- Service Frequency
- Hours of Service
- Transit Speed vs. Auto Speeds
- Passenger Loads
- Reliability
- Service Coverage

Using available information the quality of transit service along the Highway 99 corridor can be assessed using the selected criteria. The results of the assessment are summarized below.

Service Frequency

Currently, C-Tran's Route 71 provides 15-minute service on weekdays during both peak and non-peak periods. This level of service, particularly

during the non-peak period, is characteristic of transit routes operating in large urban areas. Using the grading identified in the Transit Capacity and Quality of Service Manual for service, the service frequency for Route 71 is graded LOS C.

Hours of Service

The daily start and finish times for a transit route is another indicator of service quality. In the case of Route 71, the service start is 5:15 a.m. at the Salmon Creek park-and-ride lot and the finish is 9:40 p.m. at the 7th Street transit center. Using calculations identified in the TCQS Manual for measuring hours of service, a 17-hour span of service is provided by Route 71. This span of service results in the result achieving an LOS of B for the Hours of Service measurement.

Transit Speeds vs. Auto Speeds

In the TCQS Manual, the comparison between transit and auto travel times is based on door-to-door trip times. For transit, the total travel times includes in-vehicle time, travel time to and from bus stops, waiting time for transit, and transfer time (if any).

For auto travel, the total travel time involves in-vehicle time plus walking to/from the location where the car is parked. Lack of information on travel and transfer time for transit riders as well as walking time to/from parking locations limit our analysis of Route 71 to the following: For buses, in-vehicle travel time plus average weight times, expressed in terms of one-half the headway. For autos, only the in-vehicle time is used.

Using current (February 2002) Route 71 schedules and estimated auto travel times on SR 99, the total travel time comparisons can be made. For the selected segments the transit/auto travel time comparisons, the LOS ranges from B to C depending on the time of day (see Appendix H for specific results).

Passenger Loads

Passenger loads can be assessed in relationship to available capacity. Passenger load factors can reach a point where ridership may be discouraged, i.e., the system can no longer accommodate riders. Using ridership data and comparing it to available service, the LOS for Passenger Loads can be identified.

Service Reliability

Service reliability or on-time performance can be measured by comparing actual vs. scheduled times for buses along a particular route. Information to determine current on-time performance for C-Tran Route 71 can be obtained from the agency or through separate field checks.

Conclusion

The TCQSM process provides good tools for assisting Clark County and C-Tran in evaluating transit service in a corridor. These tools can provide guidelines for creating a separate standard for transit, or to serve as an objective basis for adjusting auto travel time standards, or reworking the concurrency approach for areas designated for transit-oriented development.

It will be difficult to define which TCQSM parameters are actually important from a concurrency and land use plan perspective. An on/off (pass/fail) concept is probably better than a weighted score with auto travel time. For example, if there is LOS C or better for 3 or 4 factors, then development passes transit concurrency. Alternatively, the factors could be put into a formula that decreases the speed standard based on where the transit LOS standards are set.

Data for a lot of the TCQSM are not readily available. Maybe C-Tran and the County could research the data for key corridors annually, or every other year. The regional transportation plan is just starting to address HOV and transit priorities – getting reliable transit service in some of the corridors will take a financial commitment from the County, WSDOT, Vancouver, and others.

CONCLUSIONS

There are two policy choices

1. Separate level of service standards for one or more alternate modes of travel. Development is approvable only if the transit, bike, and/or pedestrian modes are performing at specified LOS standards.

2. Use the TCQSM measures as an objective basis for adjusting existing travel speed standards or intersection delay criteria.

The first policy option could have the effect of allowing less development than would otherwise occur if development did not exceed the LOS for motor vehicles but transit standards were not being met. The use of a multi-modal standard could help support job-creating development in the right locations, and could, therefore, accommodate or even stimulate such growth.

11. ALLOCATION OF CAPACITY

Trips generated by development use the capacity of the transportation system. There are different ways of determining how much of the capacity is used and how it is allocated among existing users and potential new users.

CURRENT CLARK COUNTY POLICY

Clark County currently requires a transportation impact study that analyzes trip generation, modal splits, distribution, and assignment. The

County reviews each study on a case-by-case basis using the Traffix model and concurrency spreadsheet to estimate the forecast travel speed with the development. Applications that pass this review with travel speeds above the adopted standard are considered to have fulfilled the concurrency requirement. The concurrency reviews are conducted on a first come, first served basis.

Current policy allows priority to be given to regional industry, public facilities, or other preferred land uses when there is a "significant public interest or need" determined by the County Commissioners.

POTENTIAL CHANGES TO POLICY

A change to the current policy would be for the County to perform quarterly, semi-annual, or annual analyses of the capacity of each corridor (at the County's acceptable level of service standard). The difference between the capacity and current volume is the amount of additional volume that could be allocated to new development. The County could maintain a central ledger of capacity that is available in each corridor, and subsequent development could be allocated capacity from the ledger that does not exceed the development's demand or any limits the County may place on the capacity.

One limit the County should impose is not to allocate more than ___% of available capacity. By placing a limit on capacity allocation that is less than the statistical maximum, the County provides a cushion for increases in through traffic that are not subject to concurrency review in that corridor. The limit also provides a "margin for error" that reduces the likelihood of a successful challenge of the system, or of specific development applications exceeding the capacity of the system. When development approaches or reaches the County's limit, it indicates that the County needs to re-evaluate it's transportation system capacity, or it's land use plan, or both.

There is another kind of limit the County could impose in allocating capacity from the central ledger. This second type of limit pertains to the type of development that is allocated capacity, and the amount of capacity that is allocated to different types of development. As examples, the County could set aside portions of the capacity and allocate it to family-wage job development, Neighborhood Commercial zoning districts, development that achieves specified modal alternatives, higher density development, development in designated parts of a corridor's traffic shed, or even through traffic. The County could establish more than one "allocation account" in order to use allocation policy to encourage specific land use and transportation outcomes. The County would need to determine what kinds and/or locations of development to allocate capacity, how much capacity to allocate to each, and how much capacity would remain open to any type of development in any location. Such a system may reserve the majority of available capacity in a corridor, similar to the development agreement with WSU-Vancouver on the Salmon Creek Avenue concurrency corridor.

A limit on the size of a development, based on trip generation, may also be used to assure the corridor's available capacity is not overwhelmed by a single large development.

Capacity allocation accounts could also be used to extend, or replace, the County's current policy of set asides for regional industry and public facilities.

A capacity allocation process would require establishing a procedure for estimating forecast travel speeds in each corridor. The Vancouver/RTC process would be one option. Implementation of such a process would change the "Area of Impact", as currently defined by Clark County.

Capacity allocation may be an effective tool to implement different land use and transportation outcomes in different parts of the County. At the May 9, 2001, work session with the Board of County Commissioners, we presented four "outcomes" (windows, scenarios): stop or slow, shape, accommodate, or stimulate growth. We made the point that the County does not have to choose only one of the four for the whole County at the same time. A capacity allocation policy could target types and amounts of development to encourage the desired outcome in each part of the County.

Capacity allocation may also be a way to solve the dilemma that areas like Mt. Vista that already have the highest impact fees and the tightest concurrency requirements are still getting lots of growth.

Capacity could be allocated on a first-come, first-served basis (within each allocation account), or allocation could be made monthly or quarterly to the best applications received during the month or quarter, as determined by specific criteria prepared, published, and used by the County.

Capacity allocations inject public policies in land development decisions that heretofore have been driven by market forces, mitigation costs, and development regulations. At the other end of the spectrum, capacity allocations are less intrusive than moratoria, such as Vancouver's experience with its Mill Plain corridor, and the County's recent experience with the Salmon Creek corridor.

A capacity allocation system could reduce or eliminate some of the detailed transportation impact studies required by the current system.

ANALYSIS

The City of Vancouver has a limited capacity allocation program. Each year, the City (working with RTC) identifies an estimate of the number of trips available in each Transportation Management Zone (TMZ) before the corresponding concurrency corridor would fall below the adopted travel speed standard. The process is also on a first come, first served basis.

There are many examples of local governments allocating building permits or water/sewer hookups, but not of direct allocation of transportation capacity. We think that the experience of allocating building permits is similar in character and purpose, so we reviewed several examples of such systems.

In some of the cases we examined, there is a competitive process in which developers prove their merits on a point-based system. Another approach is a reservation or "set-aside" for desired uses from a set number of building permits. Another method is simply exempting desired uses from the allocation process. For the uses that are not exempt or that exceed any set-aside, some jurisdictions pro-rate the number of allowed building permits among all applicants, some allocate the permits randomly, while others follow a first-come, first-served system.

The following table lists jurisdictions that have used each of these general methods. The list is not meant to be exhaustive, but illustrative of the ways in which development capacity has been allocated in the country. Growth limits are most prevalent in California and Colorado, so this is where it is most likely that an allocation system will be found. A description of each of the following examples is in Appendix E (Ebenhoh's 3/11 capacity allocation memo).

Table 4-2. Capacity allocation methods, and jurisdictions that use them

Method	Jurisdiction
Competitive process ("point"-based or merit-based)	Westminster, CO Boulder, CO (past) Petaluma, CA (past) Montgomery County, MD (past)
Set-aside for desired uses	Mount Pleasant, SC
Exemption for desired uses	Boulder, CO Broomfield, CO
Pro-rating	Boulder, CO
Random allocation	Golden, CO

As part of the Phase III modeling, we conducted a specific test of capacity in the Highway 99 (S) and Salmon Creek corridors. The results of this analysis are described more fully in Appendix A (Transpo's model results) .

Corridor analysis areas were defined by RTC for the two study corridors based on the RTC/City of Vancouver methodology for defining Transportation Management Zones (TMZ). The analysis areas were defined based on a review of the number of trips (not trip ends) impacting the study corridor that are generated by TAZs in the vicinity of the corridor. The process also

took into account travel patterns and tried to maintain a relatively contiguous set of TAZs. This process resulted in a more compact traffic analysis area compared to the process based on trip ends used to evaluate alternative concurrency test areas (see Chapter 3, Narrow Policy #1). The compact traffic analysis area is appropriate for this policy test, since it allows a more focused area to target desired land use outcomes in specific areas of the County.

For the TAZs in each study corridor analysis area, RTC defined the amount of growth in "non-retail" employment between 2005 and 2020. The traffic generation associated with the 2005 to 2020 growth in "non-retail employment" was added to 2005 baseline travel demand to emulate a concurrency capacity allocation for job development. The growth in trips from other types of development were spread out over six increments between 2005 and 2020.

WSU campus trips were "manually" added to model volumes to reflect already approved condition for the Salmon Creek corridor (consistent with the Baseline model process).

The Traffix model was rerun for the six time horizons for both study corridors and the results compared to 2005, 2010, and 2020 baseline results to see if the advancement of "non-retail" jobs would have a significant impact on the concurrency results.

This process only resulted in a growth of 80 non-retail employees between 2005 and 2020 for the Highway 99 (S) corridor. The additional trips generated by this small increase in employment resulted in very small changes in traffic volumes in the corridor. The impact of the small increase in traffic in the corridor also is offset due to changes in the signal timing parameters that are based on the relative assignment of traffic on each intersection approach.

For the Salmon Creek analysis area, a growth of approximately 1,000 non-retail employees is forecast between 2005 and 2020. This translates into 300 additional p.m. peak hour trips generated in the TAZs in the vicinity of the corridor. Most of these trips impact only a portion of the study corridor and therefore have less impact on the corridor traffic volumes than a development like WSU that would impact most of the corridor to access I-5 or I-205. The modeling process also allowed traffic patterns to shift, allowing traffic that previously used the corridor under the baseline analyses to use an alternate route once the traffic from the additional non-retail trips is taken into account. This further reduces the direct impact on corridor traffic forecasts.

The model results indicate no significant difference in corridor travel speeds compared to baseline conditions. The impulse is to declare that there were no negative consequences from front-loading the jobs related trips, therefore it would be safe for the County to pursue that policy. However,

there are important methodological issues that may have influenced the outcome.

Allocation of trips to corridors to represent traffic associated with "non-retail" jobs did not have a significant affect using the RTC model. However, front-loading trips directly into Traffix (as with WSU traffic in the Salmon Creek corridor) will directly affect the concurrency results, since traffic would not be allowed to divert to another corridor, thus producing lower travel speeds.

Another observation is that the trips that were front-loaded in order to emulate capacity allocation were already successfully accommodated in the long range forecasts, and our methodology merely accelerated an amount of growth that had already passed the concurrency test. There is no reason why accelerating the development would change the long term results. The fact that it did not change the short-term results seems to indicate that either the corridor has sufficient reserve capacity at the beginning of the time horizon, or other corridors have the reserve capacity to accommodate shifts in traffic. The latter point is speculative since we did not test all corridors to which traffic shifted.

The ability of the Traffix model to adjust signal timing in response to changes in traffic volumes also affects the results. Since more green time can be allocated to corridor movements that are most impacted, the impacts on travel speeds is reduced. However, the resulting signal timing parameters may result in added delays to movements (such as side streets or key left-turns) that are not included in the calculation of the corridor travel speed.

We conclude from the modeling that the methodology and choice of model are extremely important to this policy issue.

The model results indicate that there may not be a dramatic impact if traffic is allowed to shift, as in the RTC. If the trips are applied directly to Traffix the way it was for WSU, it probably will have a major impact in some corridors. The "hardwire" traffic assignment approach (like WSU) tends to be inflexible and probably does not reflect likely conditions. However, such a system may work to guarantee capacity for some developments.

From a technical viewpoint, the limited modeling we performed did not disclose all the issues the County would face in modeling front-loaded capacity allocations. For example, it may be better to actually add generic development to specific TAZs within the model and re-assign. The difference in traffic with and without the development would be added to the baseline (similar to adjustments for Background Traffic). This would establish a pool of trips, by TAZ (or groups of TAZs) for desired growth.

A County system needs to ensure that trips in the capacity allocation account are reduced by the number of trips actually impacting the corridor. This would assure that the actual development traffic impacts in the corridor are accounted for, instead of the total trip generation from the development.

For example, consider two developments that would each generate 200 p.m. peak hour trips. One development directly accesses the corridor and sends 80 % of its trips to the study corridor. The other development is located further away from the corridor and only sends 30 percent of it's trips to the corridor. The allocation process would need to adjust the available capacity for the first development by subtracting 160 trips. The second development would adjust the available capacity by 60 trips.

CONCLUSIONS

In order to implement a capacity allocation system, the County needs to resolve a number of design issues. At the end of each issue is a comment about how the design issue would be resolved for a "stop or slow" growth policy, and how the design issue would be resolved for a "stimulate" growth policy:

- Is the purpose of the capacity allocation to make sure that priority capacity uses occur first, or is the purpose to protect some capacity for designated purposes without requiring that the designated purposes occur first?

  Stop or slow growth: require capacity that is allocated to priority land uses to be consumed before other land uses can obtain capacity.

  Stimulate growth: do not allocate capacity, or allocate capacity to land uses that the County wishes to encourage.

- Is the purpose of capacity allocation to ensure that some capacity is available for specific purposes and/or locations, or is the purpose to limit the amount of capacity that is available for certain purposes and/or locations?

  Stop or slow growth: limit the amount of capacity that is available for specific purposes and/or locations.

  Stimulate growth: ensure that capacity is available for specific purposes and/or locations.

- Is the County going to allocate all the capacity, or will it allocate part of the capacity and leave the rest for the market to decide? If the County is leaving some capacity for the market, is the County allocating most of the capacity and leaving a modest amount for the market, or is the County allocating a limited amount of capacity for its priorities while leaving most of the capacity to the market?

  Stop or slow growth: allocate all, or nearly all, capacity in order to enforce County priorities.

Stimulate growth: allocate only the capacity needed to preserve the ability to approve development that is a County priority, leave most of the capacity unallocated so the market can determine its own needs.

- Is capacity that is allocated required to be used up before other capacity can be obtained, or is the capacity allocation program creating "reserved" capacity but "unreserved" capacity can be used at the same time, or even before "reserved" capacity is used. For example, if capacity is allocated to family-wage job development, can capacity for other purposes be used before the job development goals are achieved?

  Stop or slow growth: require priority capacity allocations to be used up before other land uses can obtain capacity.

  Stimulate growth: allow "unreserved" capacity to be used at the same time, or even before "reserved" capacity is used.

- Does capacity allocation only occur when there is not a deficiency? Can allocated capacity be released if an area becomes deficient?

  Stop or slow growth: capacity allocation only occurs when there is not a deficiency.

  Stimulate growth: allocated capacity can be released even if an area becomes deficient.

- Should the County initiate a pilot project for capacity allocation, or should it go forward with a full program? The experience of other jurisdictions, described above, is for building permits rather than transportation capacity. Clark County is likely to be a pioneer of this policy.

Of all the policy alternatives in this study, capacity allocation is probably the most direct and powerful policy to stop or slow, shape, accommodate, or stimulate growth. By careful choices of types and locations of capacity to be allocated, the County can determine when and where to encourage/allow or discourage/restrict development.

12. INVESTMENT PRIORITIES

The ability to achieve transportation and land use outcomes through concurrency is strongly influenced by decisions of when, where, how much, and what transportation mode(s) to invest in.

CURRENT CLARK COUNTY POLICY

Clark County currently makes transportation investment decisions based on multiple factors, including the availability of grants, the community's

willingness to use various revenues (i.e., taxes, impact fees, etc.), and various prioritization inputs (i.e., safety, capacity, community opinion, etc.).

The current policy tends to ensure that most needs receive some investment, but hardly any needs receive enough investment to "solve the problem". To a large degree, the County has focused its transportation investments into the areas with high growth and potential concurrency problems. However, the day-to-day implementation process using the Traffix model does not fully take into account the additional capacity provided by new roadway links or major widening of arterials.

POTENTIAL CHANGES TO POLICY

A change to the current policy would be to focus investment on one specific priority. The priority could be a mode of travel, or a geographical area, or service for a specific type of development.

Focus on a single mode could be "all roads" or "all transit" or "all non-motorized". Focus on a geographical area would be consistent with the idea of focused public investment plans which the County will be exploring in the impending update of the EIS and Capital Facilities Plan for the Comprehensive Plan. Focus on a specific type of development could be targeted to family-wage job development, or any other priority of the County.

ANALYSIS

During the modeling for Phase III, we tested five corridors that might be affected by a specific combination of changes to the capital improvement program that would serve as a surrogate for prioritized investment. The corridors included: Hazel Dell, Highway 99 (S), Salmon Creek, Gher/Covington, and SR 503 (S).

We added two projects to the network and deleted three other projects from the network in order to keep the network financially neutral (e.g., we deleted projects that cost approximately the same amount as the two projects we added). The projects we added or deleted increased traffic capacity; we did not address projects for other purposes, such as safety. Table 4-3 shows the list of changes we made to the projects in the network.

Table 4-3. Changes made to projects in the network

Accelerate Two Projects to 3-year CIP	
NE 139th Street (20th to 29th) Currently programmed 2007-beyond	$ 2,932,000
NE 154th Street (overcrossing of I-5) Currently programmed 2007-beyond	9,310,000
Total	**12,242,000**
Delay Three Projects Beyond 6-year CIP	
NW 117th/119th (7th Avenue to Hazel Dell) Programmed 2002-2005; $1,055,000 already spent	5,333,000
NE 15th Street (Union to 179th) Programmed 2002-2004; $1,534,000 already spent	4,153,000
NE 32nd/33rd Avenue (99th to 104th) Programmed 2003-2005; $103,500 already spent	1,771,000
Total	**11,257,000**

No significant changes in travel speeds were observed in 2005 or 2010 model runs between "investment priorities" network and the baseline results for 2005 and 2010. . The package of changes that served as a surrogate for investment priorities made Hazel Dell slightly worse, and produced no change in Highway 99 (S), Salmon Creek, Gher/Covington, and SR 503 (S).

The Salmon Creek corridor, which was the focus of the investment priorities, showed no improvement in travel speeds. The traffic shed for the corridor is fairly well confined, eliminating any significant shift in traffic patterns away from the corridor. Alternatively, any shift in traffic from the Salmon Creek corridor was replaced by traffic from other corridors shifting to the corridor to more directly access I-205 or I-5.

It is interesting that delaying three projects did not result in any decrease in the travel speeds in the other case study corridors, probably due to the lack of direct proximity of the deferred improvements to the other study corridors. Perhaps the impact of an investment, or the deferral of an investment, is felt most strongly in the corridor where the investment is made or deferred, and not in other corridors.

The model results indicate that focusing funds to help resolve concurrency issues in one or more corridors may not resolve the specific issue (especially if the project is not in the corridor), and can have negative impacts in several other corridors due to shifts in traffic patterns.

Widening a corridor to increase the number of travel lanes or spot intersection improvements are probably the most effective ways to apply a strategy for priority investment. In other words, the policy may work quite well, but the particular test we performed did not demonstrate its efficacy because the investments we tested were not in the corridor being tested. Successful use of this policy approach would require careful selection of

improvements that can best resolve deficiencies. These may include projects under the responsibility of WSDOT or other jurisdictions, and would require regional coordination and prioritization to be fully effective.

The County needs to make a long term commitment to the priorities. Without the commitment, this strategy will not be effective.

The County is no longer in control of its own destiny because the most significant transportation funding is from State rather than local sources. In order for a policy of investment priorities to be effective, the County may need to allocate all of local revenue to one or two projects at a time.

Given the very limited amount of money that is available for all local transportation projects, a policy of priority investment in capacity projects for concurrency may cause safety, circulation, or other types of projects and other needs to be short changed.

CONCLUSIONS

The County could adopt a policy of prioritizing its investment in transportation capacity projects. Such a policy would support other County policies for economic development and growth management by using concurrency as an incentive in areas of priority investment, and by using concurrency as a disincentive in areas where investment is deferred or denied.

We selected Salmon Creek in part because of the moratorium. Unfortunately, as our modeling effort shows, the County doesn't have the right projects in its TIP, therefore we didn't have the right solutions to provide with priority funding. If the TIP had the right solutions (or State projects for the I-205/I-5/ NE 134th interchange area were available for consideration) they could eliminate the moratorium. We are left wondering whether or not it is possible to use the concurrency process in general, and the modeling of future outcomes in particular as an "early warning" system to identify and develop solutions to future deficiencies.

The County could use concurrency deficiencies as the basis for capacity "points" as part of the TIP priority process. An alternative would be to reserve a portion of the TIP for capacity projects or spot fixes. A stronger approach would be to develop a concurrency deficiency priority process as an alternative (or supplement) to the TIP priority process.

Without the proper transportation projects, some development would be at risk. For example, University Research Park probably won't happen without a transportation investment in the Salmon Creek area.

Prioritizing investments has the potential to be one of the stronger policy alternatives in this study to stop or slow, shape, accommodate, or stimulate growth. By careful selection of projects to be funded, the County can

determine when and where to encourage/allow or discourage/restrict development.

Investment priorities can also work in tandem with capacity allocation. If the County's priority for capacity allocation is at risk because of concurrency levels of service, targeted investment may be able to solve the problem. There is potentially a strong synergistic effect between the two policies: perhaps the combination of the two would be more powerful than each policy operating independent of the other.